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AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of transmitting ~~information-data~~ between a mobile node and a home agent-~~of~~for the mobile node, the mobile node having an associated ~~home AAA authentication~~ server, the method comprising:

establishing a first communication between a first packet data serving node (PDSN) and the mobile node located in a first network;

~~determining at a proxy server the~~an address of the authentication server HAAA;

~~contacting the authentication server HAAA and, responsively, receiving information indicating a methodology of determining the from which an address of the home agent-~~of~~for the mobile node may be determined;~~

~~determining the address of the home agent using the information received from the authentication server; HAAA and the PDSN;~~

sending the address of the home agent from the proxy server to the first PDSN;

sending, from the first PDSN to the home agent at the address of the home agent, a first registration request message for establishing a first registration between the first PDSN and the home agent; and

routing the ~~information-data~~ from the mobile node to the home agent via the first PDSN.

2. (Currently amended) The method of claim 1 further comprising:

moving the mobile node to a second network, wherein the second network comprises a second PDSN;

establishing a second communication between the mobile node and the second PDSN;

re-determining at the proxy server the address of the ~~HAAA~~ authentication server for the mobile node;

re-contacting the ~~HAAA~~ authentication server and, responsively, receiving information indicating a methodology of determining from which the address of the home agent of for the mobile node may be determined;

re-determining the address of the home agent;

sending the address of the home agent from the proxy server to the second PDSN;

sending, from the second PDSN to the home agent at the address of the home agent, a second registration request message for establishing a second registration between the second PDSN and the home agent; and

re-routing data from the mobile node information to the home agent via the second PDSN.

3-4 (Cancelled)

5. (Currently amended) A system comprising:

a mobile node;

a wireless network coupled to the mobile node;

a packet data serving node (PDSN) ~~PDSN~~ coupled to the wireless network;

a proxy server coupled to the PDSN, the proxy server including a table comprising an address pool, ~~the table including information indicating the home address of the mobile node~~;

an authentication server ~~a HAAA~~ coupled to the proxy server; and

a home agent coupled to the PDSN;

wherein the mobile node sends a access-request message to the wireless network, and the wireless network sends the access-request message to the PDSN;

wherein the PDSN forwards the access-request message to the proxy server;

wherein the proxy server determines the address of the authentication server HAAA;

wherein the HAAA authentication server receives the access-request message from the proxy server and, responsively, sends the proxy server information indicating (i) a first methodology of determining an address of the home agent, and (ii) a second methodology of determining a home address of the mobile node representative of an IP address assignment to the proxy server, and the proxy server determines the address of the home agent using the information and the table;

wherein the proxy server determines the address of the home agent using the first methodology and determines the home address of the mobile node using the second methodology;

wherein the proxy server sends the address of the home agent address and the home address of the mobile node to the PDSN; and

wherein a data message from the mobile node is thereafter forwarded routed to the home agent via the PDSN having the address.

6. (Currently amended) The system of claim 5 wherein the second methodology comprises determining the home address of the mobile node home agent is determined statically.

7. (Currently amended) The system of claim 5 wherein the second methodology comprises determining the home address of the mobile node home agent is determined dynamically.

8. (Currently amended) The system of claim 5 wherein the second methodology comprises determining the home address of the mobile node from the is determined from an address pool.

9. (Original) The system of claim 5 wherein the network includes a PDSN.

10. (Currently amended) The system of claim 5 wherein said mobile node subsequently moves to a second network and the address of the HAAA authentication server, the mobile node, and the home agent [[HA]] are re-determined re-computed.

11. (Currently amended) A system for transmitting data information between a mobile node and a home agent ~~of~~ for the mobile node, the mobile node having an associated authentication home AAA server, the system comprising:

means for determining at a proxy server an the address of the HAAA authentication server;

means for contacting the HAAA authentication server and, responsively, receiving information indicating (i) a first methodology of determining the a home address of the mobile node, and (ii) a second methodology of determining an address of the home agent for of the mobile node;

means for determining at the proxy server the home address of the mobile node, home agent using the information indicating the first methodology; received from the PDSN;
means for determining at the proxy server the address of the home agent, using the information indicating the second methodology;
means for sending the home address of the mobile node and address of the home agent for the mobile node from the proxy server to a packet data serving node (PDSN);
means for sending the home address of the mobile node from the PDSN to the mobile node; and
means for routing the data information from the mobile node to the home agent via the PDSN having the address.

12. (Currently amended) A computer readable medium having stored therein instructions for causing a processing unit to execute the following method:

determining, at a proxy server, the an address of an authentication server-the HAAA;
contacting the authentication server from the proxy server, and responsively HAAA and,
responsively, receiving at the proxy server information indicating: (i) a first methodology of
determining the a home address of a mobile node, and (ii) a second methodology of determining
an address of the home agent of for the mobile node;

determining, at the proxy server, (i) the home address of the mobile node, home agent
using the first methodology, and (ii) the address of the home agent, using the second
methodology information received from the PDSN; and

sending the home address of the mobile node and the address of the home agent from the
proxy server to a packet data serving node.

~~routing the information from the mobile node to the home agent having the address.~~

13-19 (Cancelled)

20. (Currently amended) A system for reclaiming and releasing session resources on a packet data serving node (PDSN) ~~PDSN~~, proxy server and home agent during packet data serving area traversal by a mobile node, the system comprising:

means for requesting a reclamation of resources on the PDSN by the proxy server, upon detection of traversal of the mobile node from a first coverage area to a second coverage area;

means for, responsively, receiving at the proxy server a resource management request from the PDSN;

means for acknowledging the resource management request with a resource-free-response by the proxy server to the PDSN;

means for releasing resources allocated to a PDSN session from the home agent in response to the home agent receiving a de-registration request from the PDSN, ~~by the PDSN~~; and

means for responding to the de-registration request de-RRQ messaging triggered by resource management, with a de-registration response de-RRP message.

21. (New) The method of claim 1, further comprising:

sending, from the authentication server to the proxy server, a methodology for determining a home address for the mobile node;

using, at the proxy server, the methodology to determine the home address for the mobile node; and

sending the home address for the mobile node from the proxy server to the first PDSN.

22. (New) The method of claim 21, wherein the methodology comprises the authentication server sending the home address for the mobile node to the proxy server.

23. (New) The method of claim 21, wherein the methodology comprises the proxy server selecting the home address for the mobile node from a pool of addresses stored in the proxy server.

24. (New) The method of claim 2, further comprising:
sending a resource reclaim message to the first PDSN from the proxy server;
sending a de-registration request message from the first PDSN to the home agent for the removal of active connection information at the home agent.

25. (New) A method for forwarding messages from a mobile node to a home agent, the method comprising:
sending an access request message from the PDSN to a proxy server;
receiving, at the PDSN from the proxy server, a home agent address for the home agent and a home address for the mobile node;
sending a registration request message from the PDSN to the home agent at the home agent address for establishing a registration with the home agent;
establishing an internet protocol (IP) communication connection between the PDSN and the mobile node;
receiving, at the PDSN, messages from the mobile node; and

forwarding the messages from the PDSN to the home agent.

26. (New) The method of claim 25, further comprising:
receiving a resource reclaim message from the proxy server; and
sending a de-registration request message to the home agent for the removal of active connection information at the home agent.
27. (New) The method of claim 25, wherein forwarding the messages from the PDSN to the home agent comprises routing the messages to the home agent.
28. (New) The method of claim 25, wherein forwarding the messages from the PDSN to the home agent comprises tunneling the messages to the home agent.
29. (New) The system of claim 5, wherein the PDSN sends the home address of the mobile node to the mobile node.
30. (New) The system of claim 5, wherein the data message is forwarded by routing the data message.
31. (New) The system of claim 5, wherein the data message is forwarded by tunneling the data message.

32. (New) The system of claim 5, wherein the first methodology comprises the proxy server assigning the home agent address.

33 (New) The system of claim 5, wherein the first methodology comprises the authentication server providing a value of the home agent address to the proxy server.

34. (New) The system of claim 1, wherein the information indicates that the proxy server should assign the home agent address.

35. (New) The system of claim 1, wherein the information comprises the authentication server providing a value of the home agent address to the proxy server.

36. (New) The system of claim 11, wherein the second methodology comprises the proxy server determining the address of the home agent using information received from the PDSN.